Log sin 69°15′22″·82 = 9·9708926 Log sin 69°15′26″·42 = 9·9708955
Log ✱ 42047 = 4·6237350 Log 42048 = 5·6237453
5·3471576 4·3471502
74 : 10 × 0″·36 :: 15 : ✱ 2 × 0″·36 = 0″·72 E = 69°15′23″·54 à 0″·36 près.

Log sin 69°15′23″·54 = 9·9708932 Log sin 69°15′23″·90 = 9·9708935
Log 420472 = 5·6237371 Log 420473 = 5·6237381
4·3471561 4·3471554
7 : 10 × 0″·036 :: 0 : ✱ 0 × 0″·036 = 0 E = 69°15′23″·54 à 0″·01 près.

Pour les grandes excentricités la différence, qui dans cet exemple est 74, est proximément constante. Cela peut servir pour controle dans les calculations.

Enfin, il est plus long d'expliquer cette règle, que de la mettre en pratique.

Naples, 21 *Mai*, 1862.

Observations of the Planet Neptune, made with the Olcott Meridian Circle, at the Dudley Observatory, Albany, U.S.A. By G. W. Hough, Assistant.

(*Communicated by Prof. Mitchell through the Astronomer Royal*).

1861.	M.T. Dudley Observatory. h m s	App. R.A. h m s	App. Decl. ° ′ ″
Sept. 24	11 46 54·61	.....	−1 13 44·76
25	11 42 52·65	0 2 45·70	1 14 25·34
28	11 30 46·79	0 2 27·51	1 16 25·03
Oct. 3	11 10 37·29	0 1 57·46	1 19 41·17
8	10 50 28·42	0 1 28·05	1 22 51·17
9	10 46 26·66	0 1 22·18	
14	10 26 18·78	0 0 53·76	1 26 29·20
28	9 30 4·42	23 59 41·92	1 33 59·68
29	9 26 3·94	23 59 37·34	1 34 27·89
Nov. 18	8 6 12·93	23 58 24·31	1 41 45·60
19	8 2 14·52	23 58 21·81	1 42 0·50
22	7 50 19·74	23 58 14·74	1 42 38·27
25	7 38 25·94	23 58 8·67	1 43 10·80
26	7 34 28·37	23 58 7·0	1 43 20·93
30	7 18 38·92	23 58 1·18	1 43 46·47
Dec. 2	7 10 44·88	23 57 58·96	1 43 56·49
3	7 6 48·04	23 57 58·02	1 43 58·16
14	6 23 31·28	23 57 56·39	1 43 42·84
17	6 11 45·83	23 57 58·59	1 43 26·11
18	6 7 50·91	23 57 59·59	1 43 21·63
21	5 56 6·92	23 58 3·34	1 42 37·10
24	5 44 24·05	23 58 8·21	1 41 59·02
30	5 21 1·61	23 58 21·28	−1 40 17·91

Date. 1861.	R.A. Correction to Amer. Eph.	R.A. Correction to Naut. Alm.	N.P.D. Correction to Amer. Eph.	N.P.D. Correction to Naut. Alm.
	s	s	"	"
Sept. 24	...	...	+10·41	+4·98
25	−1·63	−0·81	11·09	5·68
28	1·60	0·80	11·68	6·23
Oct. 3	1·56	0·78	12·23	6·76
8	1·50	0·71	11·97	6·43
9	1·57	0·79		
14	1·63	0·88	11·40	6·17
28	1·56	0·81	9·94	4·52
29	1·53	0·78	9·64	4·23
Nov. 18	1·53	0·84	10·40	5·41
19	1·47	0·78	10·80	5·87
22	1·52	0·81	9·73	4·89
25	1·59	0·89	10·44	5·61
26	1·50	0·81	11·57	6·71
30	1·48	0·79	9·11	4·20
Dec. 2	1·51	0·82	10·00	5·09
3	1·54	0·82	8·36	3·53
14	1·49	0·85	11·14	6·47
17	1·50	0·85	10·93	6·13
18	1·49	0·85	11·53	6·74
21	1·48	0·86	9·30	4·60
24	1·47	0·87	10·80	6·13
30	−1·51	−0·91	+10·83	+6·11

	R.A. Mean Correction to Amer. Eph.	R.A. Mean Correction to Naut. Alm.	N.P.D. Mean Correction to Amer. Eph.	N.P.D. Mean Correction to Naut. Alm.
	s	s	"	"
Sept. and Oct.	−1·57	−0·79	+11·04	+5·63
Nov.	−1·52	−0·82	+10·17	+5·45
Dec.	−1·50	−0·85	+10·36	+5·60
Mean Day.				
Nov. 17	−1·529	−0·824	+10·52	+5·56

From these results it is readily seen that neither Ephemeris represents the motion of the planet correctly in R.A. The variation for 100 days is $+0^s\cdot109$ for the American Ephemeris, and $-0^s\cdot087$ for the *Nautical Almanac*. By applying the variation, the probable error for a single observation is $0^s\cdot029$ for the American Ephemeris, and $0^s\cdot025$ for the *Nautical Almanac*.

In Declination the probable errors are $0''\cdot80$ and $0''\cdot79$. The transits on October 28th, November 19th, and December 2d, were observed on 9, 10, and 7 wires respectively. In all the other observations 15 wires were used, and the times of transit recorded on the Chronograph. Any change in the rate of the Clock (during the time of observation) was satis-

factorily determined by comparison with two other Clocks, by causing their pendulums to make records on the Chronograph at intervals of 30 minutes.

In converting the chronographic records into time, every wire was measured to the hundredth of a second. But in the "mean" and all subsequent reductions the thousandths were retained, being rejected in the final result only.

N.B. The observations published in the *Monthly Noiices*, vol. xxii., No. 1, pages 18 and 19, were not corrected for parallax.

Results of the Meridional Observations of Small Planets; Occultations of Stars by the Moon; and Transit of Jupiter's Third Satellite; observed at the Royal Observatory, Greenwich, from June to September, 1862.

(*Communicated by the Astronomer Royal.*)

Hebe (6).

Mean Solar Time of Observation.		R.A. from Observation.		N.P.D. from Observation.	
	h m s		h m s		° ′ ″
1862, June 14	10 57 12·3		16 29 6·40		90 4 8·51
16	10 47 32·6		16 27 18·25		90 9 8·15
27	9 55 27·9		16 18 27·14		90 51 1·69
28	9 50 50·7		16 17 45·68		90 55 57·26
July 2	9 32 34·3		16 15 12·55		91 17 34·97

Iris (7).

Mean Solar Time of Observation.		R.A. from Observation.		N.P.D. from Observation.	
	h m s		h m s		° ′ ″
1862, Aug. 18	13 33 11·0		23 21 26·92		83 8 41·41
19	13 28 43·3		23 21 15·01		83 8 2·01
27	12 52 6·6		23 16 4·78		83 11 48·47
28	12 47 26·2		23 15 20·15		83 13 28·23
Sept. 3	12 19 3·5		23 10 32·15		83 28 30·87
10	11 45 29·2		23 4 28·13		83 56 38·05
11	11 40 40·6		23 3 35·32		84 1 28·79
16	11 16 39·9		22 59 13·45		84 28 14·24
17	11 11 52·9		22 58 22·24		84 34 1·23
19	11 2 20·9		22 56 41·71		84 46 0·53
22	10 48 18·9		22 54 17·04		85 4 48·02
23	10 43 26·8		22 53 30·75		85 11 12·95
25	10 34 6·3		22 52 1·86		85 24 12·32